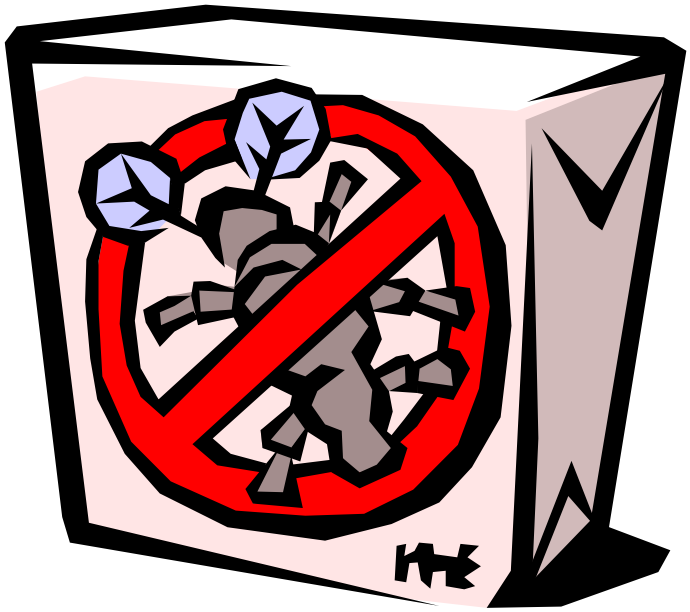
National Park Service
US Department of the Interior

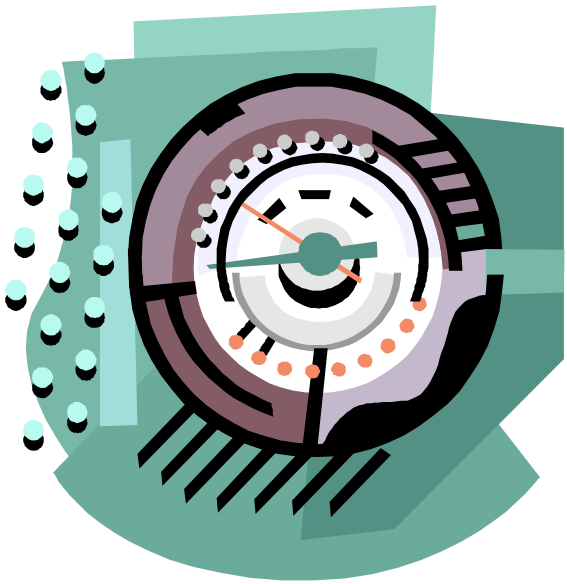
Concession Environmental Management Program
Denver, Colorado

Guidance for Managing Universal Waste

Fluorescent bulbs



Pesticides



Mercury Thermostats

Batteries

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UPDATED: February 2003

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Purpose of This Guidance

This document provides an overview of the requirements for managing certain hazardous wastes in accordance with regulations promulgated by the US Environmental Protection Agency (US EPA) in 40 Code of Federal Regulations Part 273. The document also highlights some particular universal waste management considerations for concessioners operating in national parks.

Who Should Read This Guidance

This guidance was written for NPS concessioners that generate any type of universal waste.

What are Universal Wastes?

The US EPA has designated certain often-generated hazardous wastes as "universal wastes." To date, the US EPA has designated the following types of materials as universal wastes when they become a waste:

1) Batteries (e.g., nickel-cadmium (NiCad), lead acid batteries[1], small sealed lead acid batteries (SSLAs), and alkaline batteries manufactured before 1992[2]).
2) Mercury-containing lamps[3] (e.g., fluorescent bulbs or tubes and high-intensity discharge lamps).
3) Mercury-containing thermostats.
4) Certain pesticides.

HAZARDOUS WASTE

A hazardous waste has properties that make it dangerous, or capable of having a harmful effect on human health and the environment. Hazardous wastes are regulated under the Resource Conservation and Recovery Act (RCRA) in 40 CFR 260-299). To be considered a RCRA hazardous waste, the substance must either exhibit a hazardous waste characteristic (i.e., it is ignitable, flammable, toxic, or reactive) or be specifically listed in the regulations as hazardous (i.e., certain spent solvents).

In June 2002, the US EPA proposed adding used cathode ray tubes (CRTs) and mercury-containing equipment as universal wastes. As of the date of publication of this assistance resource, the US EPA had not issued a final rule regarding this issue.

[1] Lead-acid batteries may be managed as universal wastes; however, there are other even less stringent regulations under which they can be managed (i.e., 40 CFR 266, Subpart G).

[2] Alkaline batteries manufactured after 1992 are not considered hazardous wastes; therefore, they are not universal wastes. However, alkaline batteries manufactured before 1992 may contain mercury, and may therefore be a hazardous waste.

[3] Fluorescent light ballasts are not universal wastes. Separate management requirements exist for these wastes under the Toxic Substances Control Act (TSCA) if they contain PCBs. Although they are handled under a separate regulatory program, many recyclers provide recycling services for fluorescent light ballasts.

However, businesses operating in US EPA Region III (i.e., Delaware, Maryland, West Virginia, Pennsylvania, Virginia, Washington, DC) are permitted to manage CRTs and glass from CRTs as a universal waste starting February 24, 2003, which supports that Region's ongoing e-Cycling pilot project.

Why Did the US EPA Enact the "Universal Waste Rule"?

The US EPA enacted the Universal Waste Rule to reduce the amount of hazardous waste and encourage the recycling of items that would otherwise possibly be sent to municipal waste facilities. The Universal Waste Rule reduces the regulatory burden associated with designated wastes when they are recycled. While universal wastes can still be managed as a hazardous waste, it makes sense to handle them as universal waste because management requirements, such as recordkeeping, are less stringent.

Who is Affected by the Universal Waste Rule?

The Federal Universal Waste Rule applies to small quantity generators (SQGs) and large quantity generators (LQGs) of hazardous waste. Conditionally exempt small quantity generators (CESQGs) of hazardous waste are allowed, under federal regulations, to dispose of their universal waste with municipal waste. However, it is NPS policy that **all** national parks that generate universal waste manage these wastes in accordance with the Universal Waste Rule (i.e., not dispose of the waste with municipal waste), irrespective of their hazardous waste generator category.

HAZARDOUS WASTE GENERATOR CATEGORIES

Conditionally Exempt Small Quantity Generator (CESQG): In one calendar month, generates 220 lbs or less of hazardous waste and/or less than 2.2 lbs of acutely hazardous waste. Stores 2,200 lbs or less of hazardous waste onsite.

Small Quantity Generator (SQG): In one calendar month, generates 2,200 lbs or less of hazardous waste and/or less than 2.2 lbs of acutely hazardous waste. Stores 13,200 lbs or less of hazardous waste onsite.

Large Quantity Generator (LQG): In one calendar month, generates more than 2,200 lbs of hazardous waste and/or 2.2 lbs or more of acutely hazardous waste, and/or stores more than 13,200 lbs of hazardous waste onsite.

Universal waste management requirements apply to concessioners only if they are SQGs or LQGs, just like any other commercial business. Currently, the NPS policy that requires all national parks to manage universal waste in accordance with the Universal Waste Rule irrespective of their hazardous waste generator category is not applicable to concessioners unless it is specified in their Concession Contract, Operating and Maintenance Plan, or other concessioner-specific documents. However, as a recommended Best Management Practice (BMP), the NPS encourages its concessioners who are classified as CESQGs to manage their universal wastes in accordance with the Universal Waste Rule to help further protection of the environment.

What Are the States' Roles Under the Universal Waste Rule?

Under RCRA, states are encouraged to develop and manage their own hazardous waste programs. When EPA issued the Universal Waste Rule, it did not become effective automatically across the United States. The Universal Waste Rule, and any changes made to it, went into effect immediately only in states and territories that did not have an authorized hazardous waste program (i.e., Iowa, Alaska, Hawaii, and Puerto Rico).

States that were authorized to implement their own hazardous waste programs had to formally adopt the Universal Waste Rule in order for it to be effective. Since the Universal Waste Rule is less stringent than RCRA regulations, state adoption is optional. Many states have adopted the federal Universal Waste Rule in its entirety. A number of states have not adopted the rule at all (e.g., Maryland currently has no Universal Waste Program). Other states have adopted only portions of the rule.

Some states have adopted provisions of the federal Universal Waste Rule that allow them to add additional wastes to their universal waste programs. For example, some states include cathode ray tube (CRT)-containing equipment as a universal waste. Texas includes waste paints and inks as universal wastes; Colorado includes aerosol cans as universal wastes.

Because of the integral role states play in the Universal Waste Program, **concessioners must check with their state environmental regulatory office (e.g., Department of Environmental Protection) to identify state requirements**. The most important information to determine is:

- Has the state adopted the Universal Waste Rule?
- Which wastes are included in the state program?
- How should universal wastes be managed (are management requirements similar to or more rigorous than federal requirements)?

How are Items "Managed as Universal Waste"?

The Universal Waste Rule allows hazardous waste **generators** to manage universal waste less stringently than they would be required to as hazardous waste, as long as the hazardous waste is managed in a way that minimizes the chance of releasing hazardous components to the environment and is recycled (for all types of universal waste except pesticides).

The Universal Waste Rule designates two classes of universal waste **handlers**—small and large quantity **handlers**. It is unlikely that any concessioner operation would fall into

UNIVERSAL WASTE GENERATOR CATEGORIES

Small Quantity Handler (SQH): Stores no more than 11,025 pounds of universal waste onsite.

Large Quantity Handler (SQH): Stores more than 11,025 pounds of universal waste onsite.

Don't confuse the categories of hazardous waste generators and universal waste handlers! One concessioner can be both!

the large quantity handler classification. To be a large quantity handler, a concessioner would have to accumulate more than 11,025 pounds of universal waste at any one time. Therefore, this guidance focuses on those requirements applicable to small quantity **handlers**. These management requirements are summarized in **Table 1** below. (Generators should remember that state requirements may vary.)

Table 1: Management Requirements for Small Quantity Handlers (SQHs) of Universal Waste

ISSUE	REQUIREMENT
Accumulation Limits	• Cannot accumulate more than 11,025 pounds of universal wastes (all classes of universal wastes) at any one time.
Container Management	• Manage in a way that minimizes the potential for a release of the universal waste's hazardous components (e.g., place spent fluorescent lamps in a container that protects them from breakage; place spent NiCad batteries in a plastic tub or pail). • Contain any universal waste that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. • Ensure designated container used to accumulate universal waste is closed, structurally sound, compatible with the contents of the waste, and lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
Accumulation Time Limits	• Cannot accumulate for more than one year unless it takes longer to generate enough universal waste to make recycling feasible. • If universal waste must accumulate longer than one year, there is documentation that demonstrates why this is necessary.
Labeling/ Marking	• Label individual universal waste items or containers holding universal waste to identify the types of universal waste and the amount of time it has been accumulated. (See further discussion and sample label in the section below.)
Employee Training	• Train staff on the proper universal waste handling and emergency procedures appropriate to the type(s) of universal waste generated. For example, all maintenance staff that could potentially handle universal wastes must be properly trained on managing universal waste and emergency procedures to be followed (e.g., do not throw fluorescent lamps in the trash, immediately contain a broken lamp to minimize a release). • It is a recommended BMP to provide refresher training annually. A sample Universal Waste Training Log that can be used to document training is provided in **Appendix A**.
Release Response	• Immediately contain all releases and other residues of universal wastes. • Determine whether any material resulting from a universal waste release is hazardous waste, and if so, manage the resulting hazardous waste in compliance with all applicable requirements.

ISSUE	REQUIREMENT
Shipping	Send universal waste to an approved "destination facility." • Most state environmental agencies provide generators with a list of approved destination facilities (e.g. mostly recyclers). • Universal waste handlers are allowed to send their universal waste to another universal waste handler. For example, concessioners may partner with their park, which ultimately sends its universal waste to an off-site destination facility. • Concessioners may also drop off their universal waste at a local household hazardous waste collection site run by a local government, university, or environmental organization. If this strategy is used, the concessioner should verify that they may accept waste generated on NPS property, that they recycle rather than dispose of the waste and that they send the universal waste to an approved destination facility.
Recordkeeping	• As a recommended BMP, maintain documentation indicating that universal wastes were recycled. Since Federal regulations do not require documentation, approved destination facilities may not provide a written record that the waste was recycled. For example, a box of bulbs could be mailed to an approved recycler and it would not be necessary to create a receipt. Also, if a concessioner took its universal waste to another universal waste handler, such as a household hazardous waste drop-off site, records may not be available. • If the destination facility or universal waste handler cannot provide a receipt, it is a recommended BMP that the concessioner create an internal record that indicates the type and weight of universal waste sent to the destination facility, the date the universal waste was delivered, and the name of the destination facility. A sample "memo to file" that may serve as a method for documenting where, when, and the weight of universal wastes recycled or disposed of is provided in **Appendix B**.

How Do You Label Universal Wastes?

Universal wastes, or the containers in which they are stored, must be labeled. The regulations specify terminology that should be used to identify the waste being accumulated. For example, for universal waste lamps, the label must read: "Universal Waste - Lamp(s)," "Waste Lamp(s)," or "Used Lamp(s)".

> Universal waste lamps may include, but are not limited to, fluorescent bulbs or tubes, compact fluorescent bulbs, and high intensity discharge lamps.

To ensure that the waste is not accumulated beyond the allowable one-year time limit, it is a recommended BMP that the label includes the date on which the first item placed into the container became a universal waste. To ensure that only properly trained individuals are handling universal wastes, it is also useful to provide the name of the person responsible for managing the universal waste on the label.

Concessioners can affix the label to an individual waste unit (e.g., each battery or lamp), but it is easier and more effective to simply label the container in which the wastes are being accumulated. A typical label affixed to a container of spent NiCad batteries might look like the following:

Figure 1: Labeling for Spent NiCad Batteries

UNIVERSAL WASTE -
BATTERIES (NiCad)
TO BE RECYCLED

Accumulation Start Date: 1/25/03
Responsible Person: Joe Brown, Maintenance Shop

Additional Information on Battery Recycling

Most types of batteries can be managed as a universal waste. However, alkaline batteries manufactured after 1992 do not contain any hazardous waste constituents, and therefore are not classified as hazardous wastes. (Many alkaline batteries manufactured before 1992 contain hazardous waste constituents, such as mercury, and therefore may need to be managed as hazardous or universal wastes.)

Lead acid batteries can be managed under regulations (40 CFR 266 Subpart G) that are even less stringent than the Universal Waste Rule.

Alkaline Batteries

BMP

While current federal regulations allow businesses to dispose of spent alkaline batteries with municipal waste, it is recommended BMP that concessioners recycle their spent alkaline batteries to keep solid waste out of landfills, and protect water quality from chemicals found inside the alkaline batteries.

While alkaline battery recycling is not widespread, concessioners may be able to recycle their spent alkaline batteries at household hazardous waste collection sites or through a park recycling program. Concessioners may also be able to find battery recycling businesses that recycle spent alkaline batteries.

If concessioners must dispose of spent alkaline batteries in the municipal solid waste stream, they should dispose of them in small quantities (i.e., 1-2 batteries at one time) rather than all at one time.

Lead Acid Batteries

Lead acid batteries such as automotive batteries are exempt from consideration as a hazardous waste provided that they are reclaimed (e.g., the battery parts, such as the lead, are eventually recycled into new lead acid batteries). While lead acid batteries can still be managed under hazardous waste or universal waste regulations, it makes sense to manage them under 40 CFR 266, Subpart G because, other than requiring that batteries be reclaimed, there are no other handling or disposal requirements.

If concessioners manage lead acid batteries under 40 CFR 266, Subpart G, consider using a "core-charge" battery exchange program to avoid having to store them. Concessioners should ensure their lead acid batteries are recycled; otherwise, they will be considered hazardous waste.

While management requirements for alkaline and lead acid batteries are minimal, concessioners are encouraged to adopt the following recommended BMPs:

- Designate collection locations for spent batteries. Provide storage containers for the batteries that could contain a battery leak if one was to occur. Ensure that the containers will not get wet by providing covers for the containers, or storing the containers in a covered area. Also ensure that the spent batteries are not stored near electrical equipment where the potential for an explosion from a spark could occur.
- Label the spent batteries similarly to universal waste batteries. For alkaline batteries, label the accumulation start date on the container holding the alkaline batteries (i.e., the date on which the first waste item was placed into the container). For lead acid batteries, the best approach is to tag or label the battery with the date it was set aside for recycling.
- Maintain disposal records similar to those for universal waste batteries (e.g., disposal receipts and waste log).

Additional Information

Resource Type	Name	Description	Source
phone number	RCRA, Superfund & EPCRA Call Center	Provides up-to-date information on the Resource Conservation and Recovery Act (RCRA), among other environmental areas, including universal waste regulations.	US EPA 1-800-424-9346
website	Wastes	Provides information on the Resource, Conservation, and Recovery Act, such as solid waste and hazardous waste	US EPA www.epa.gov/epaoswer/osw/index.htm
website	Universal Waste	Provides general and technical information on universal waste regulations, including a quick reference for technical requirements	US EPA www.epa.gov/epaoswer/hazwaste/id/univwast.htm
document	EnviroCheck Sheet: Universal Waste	Multi-page document used as a tool during NPS environmental audits	NPS Concession Environmental Management Program *GreenLine* Technical Assistance Number 303/987-6913
website	Environment/Energy: EPA Regions & State Environmental Departments	Links to US EPA Regions, state environmental agencies, and environmental offices at a local level	US EPA www.epa.gov/epapages/statelocal/envrolst.htm

Appendix A

Record of Universal Waste Training

The following form will help the concessioner demonstrate that its employees have undergone universal waste training and can also assist the concessioner as a tracking tool to determine who has undergone or still needs training.

RECORD OF UNIVERSAL WASTE TRAINING

All individuals responsible, or potentially responsible, for handling universal wastes have been identified and trained on proper management requirements before handling those wastes. That training includes, but is not limited to, the following:

- The types of wastes allowed by the State to be managed as universal waste;
- Container management requirements applicable to universal waste;
- Labeling requirements applicable to containers holding universal wastes;
- Accumulation time limits applicable to universal wastes;
- Required responses to releases of hazardous constituents of universal wastes (e.g. how to respond to a broken fluorescent tube);
- Additional state requirements applicable to the management of universal wastes generated at the facility.

Following is a log of individuals who have received the required universal waste training.

Date Training Received	Name	Title/Division

Appendix B

Record of Offsite Management of Universal Waste

The concessioner should keep records of any universal wastes given to a destination facility (e.g., receipts). Due to the nature of universal waste handling regulations, it is possible that a recycler or another universal waste handler may not provide the concessioner with documentation indicating that it received the concessioner's universal waste and will handle it according to regulations. For instance, fluorescent lamps may be dropped off at a local household hazardous waste and recycling center or a vendor may provide return-mail boxes for bulbs or batteries, and the concessioner may not receive receipts documenting where it had disposed of/recycled its universal wastes.

In such cases, the concessioner may utilize the following sample form, or can develop a similar internal document for its files, that includes the name and contact information for the destination facility, the type and amount of universal waste given to the destination facility, and the date it was shipped or dropped off. This form can then serve as a record to demonstrate how the concessioner manages its universal wastes.

RECORD OF OFF-SITE MANAGEMENT OF UNIVERSAL WASTE

TO: [File]

FROM: [INSERT NAME OF RESPONSIBLE PARTY]

DATE: I[NSERT DATE]

SUBJECT: Record of Off-Site Management of [INSERT CONCESSIONER NAME] Universal Waste

Universal waste generated at this facility is managed in accordance with regulatory requirements stipulated by the State of [INSERT STATE NAME]. The following is intended to serve as a record of the offsite shipment of universal waste from this facility in instances where the destination facility or universal waste handler accepting the waste does not provide [CONCESSIONER] with a receipt.

DATE WASTE SENT: _____

TYPE OF UNIVERSAL WASTE: _____

DESITINATION FACILITY/
UNIVERSAL WASTE HANDLER
ACCEPTING UNIVERSAL WASTE
(name, address, phone number): _____

AMOUNT OF UNIVERSAL WASTE SENT
(IN UNITS OR POUNDS): _____